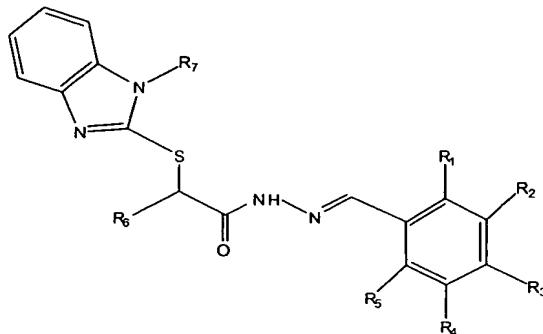


WHAT IS CLAIMED:

1. A method of treating a disorder mediated by soluble adenylyl cyclase in a subject, said method comprising:

administering to a subject an effective amount of a compound that modulates soluble adenylyl cyclase, said compound having the following formula:



wherein:

R₁ is H, OH, alkyloxy, or halogen;

R₂ and R₅ are H or halogen;

R₃ is H or OH;

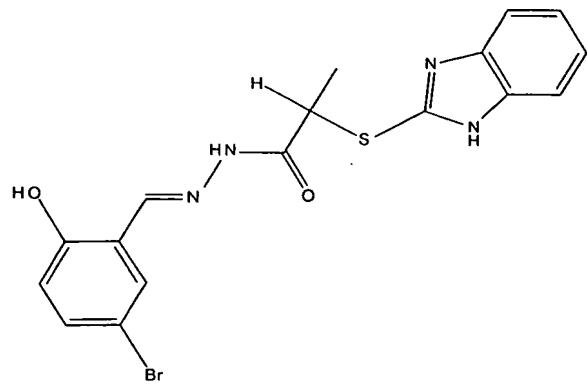
R₄ is H, alkyloxy, or halogen;

R₆ is H or alkyl; and

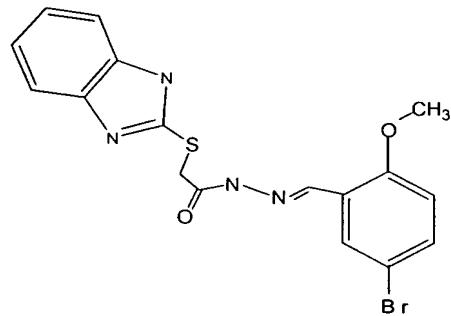
R₇ is H or CH₂R₈, wherein R₈ is H, alkyl, or substituted or unsubstituted phenyl, with the proviso that at least one of R₁, R₂, R₃, and R₄ is a halogen,

under conditions effective to treat the disorder mediated by soluble adenylyl cyclase.

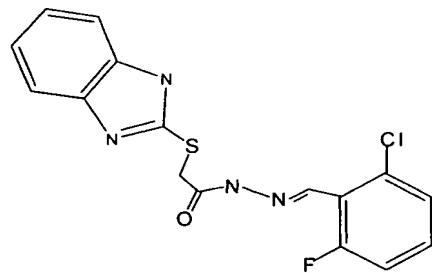
2. The method according to claim 1, wherein the compound has the following formula:



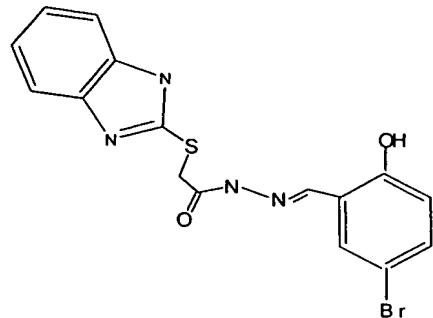
3. The method according to claim 1, wherein the compound has the following formula:



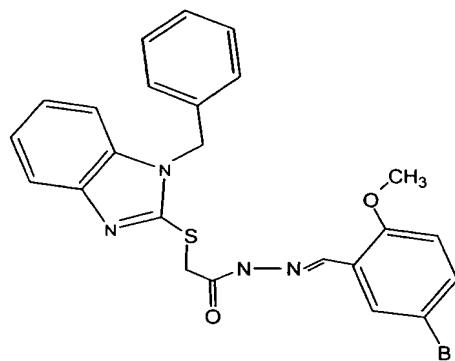
4. The method according to claim 1, wherein the compound has the following formula:



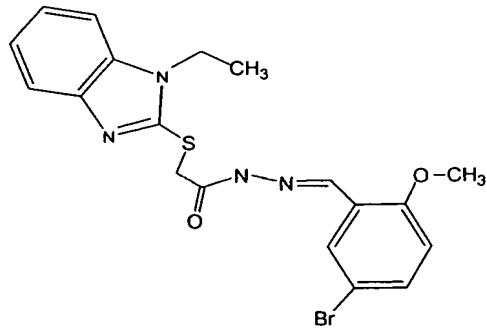
5. The method according to claim 1, wherein the compound has the following formula:



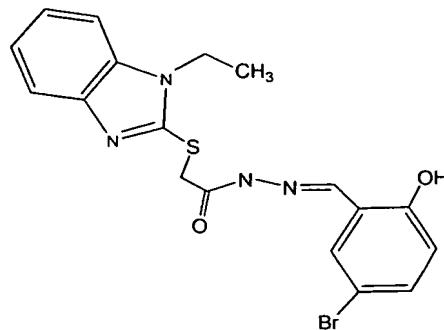
6. The method according to claim 1, wherein the compound has the following formula:



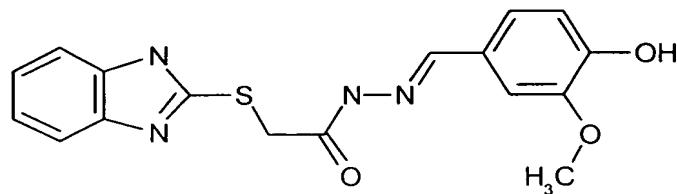
7. The method according to claim 1, wherein the compound has the following formula:



8. The method according to claim 1, wherein the compound has the following formula:



9. The method according to claim 1, wherein the compound has the following formula:



10. The method according to claim 1, wherein the disorder is selected from the group consisting of: learning or memory disorders, male fertility/sterility, glaucoma, metabolic acidosis/alkalosis, diabetes, metabolic disorders, breathing disorders, insulin resistance, hyperinsulinemia, malaria, fungal infection, spinal cord injury, Alzheimer's disease, amyotrophic lateral sclerosis, and peripheral neuropathy.

11. The method according to claim 10, wherein the disorder is a learning or memory disorder.

12. The method according to claim 10, wherein the disorder is male fertility/sterility.

13. The method according to claim 10, wherein the disorder is glaucoma.

14. The method according to claim 10, wherein the disorder is metabolic acidosis/alkalosis.

15. The method according to claim 10, wherein the disorder is diabetes.
16. The method according to claim 10, wherein the disorder is a metabolic disorder.
17. The method according to claim 10, wherein the disorder is a breathing disorder.
18. The method according to claim 10, wherein the disorder is insulin resistance.
19. The method according to claim 10, wherein the disorder is hyperinsulinemia.
20. The method according to claim 10, wherein the disorder is malaria.
21. The method according to claim 10, wherein the disorder is fungal infection.
22. The method according to claim 10, wherein the disorder is spinal cord injury.
23. The method according to claim 10, wherein the disorder is Alzheimer's disease.
24. The method according to claim 10, wherein the disorder is amyotrophic lateral sclerosis.
25. The method according to claim 10, wherein the disorder is peripheral neuropathy.
26. A method of treating a disorder mediated by soluble adenylyl cyclase in a subject, wherein the disorder is selected from the group consisting of: learning or memory disorders, malaria, fungal infection, spinal cord injury,

Alzheimer's disease, amyotrophic lateral sclerosis, and peripheral neuropathy, said method comprising:

modulating soluble adenylyl cyclase in the subject.

27. The method according to claim 26, wherein the disorder is a learning or memory disorder.

28. The method according to claim 26, wherein the disorder is malaria.

29. The method according to claim 26, wherein the disorder is fungal infection.

30. The method according to claim 26, wherein the disorder is spinal cord injury.

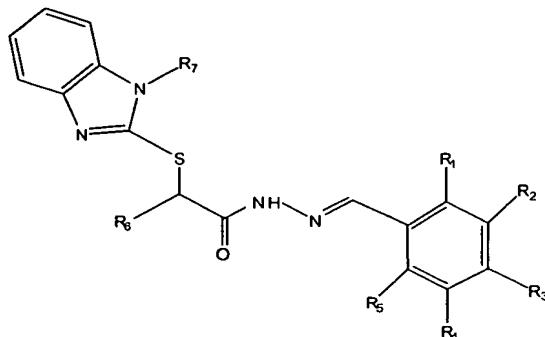
31. The method according to claim 26, wherein the disorder is Alzheimer's disease.

32. The method according to claim 26, wherein the disorder is amyotrophic lateral sclerosis.

33. The method according to claim 26, wherein the disorder is peripheral neuropathy.

34. A method of modulating soluble adenylyl cyclase, said method comprising:

contacting eukaryotic cells with a compound that modulates soluble adenylyl cyclase, said compound having the following formula:



wherein:

R₁ is H, OH, alkyloxy, or halogen;

R₂ and R₅ are H or halogen;

R₃ is H or OH;

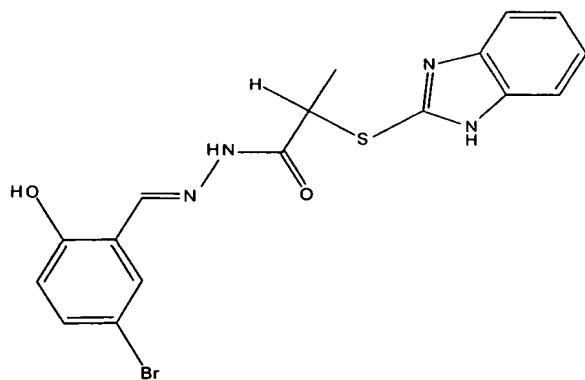
R₄ is H, alkyloxy, or halogen;

R₆ is H or alkyl; and

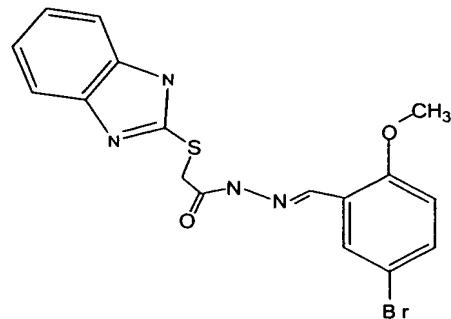
R₇ is H or CH₂R₈, wherein R₈ is H, alkyl, or substituted or unsubstituted phenyl, with the proviso that at least one of R₁, R₂, R₃, and R₄ is a halogen,

under conditions effective to modulate soluble adenylyl cyclase.

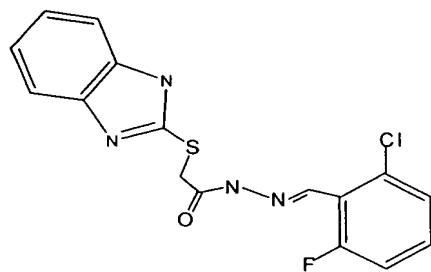
35. The method according to claim 34, wherein the compound has the following formula:



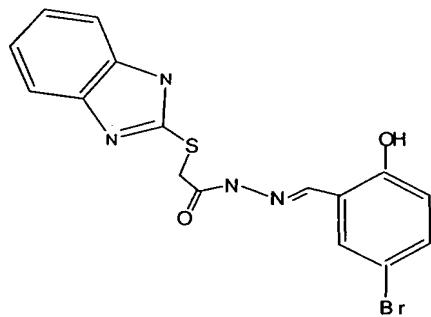
36. The method according to claim 34, wherein the compound has the following formula:



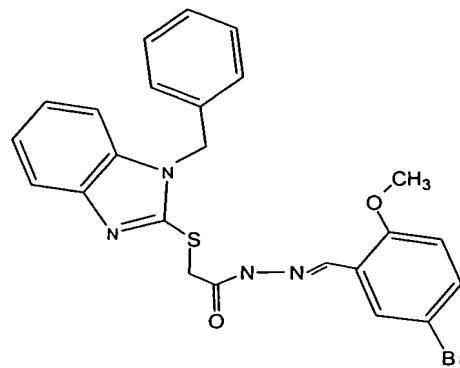
37. The method according to claim 34, wherein the compound has the following formula:



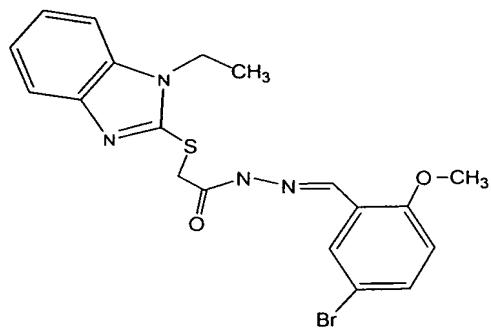
38. The method according to claim 34, wherein the compound has the following formula:



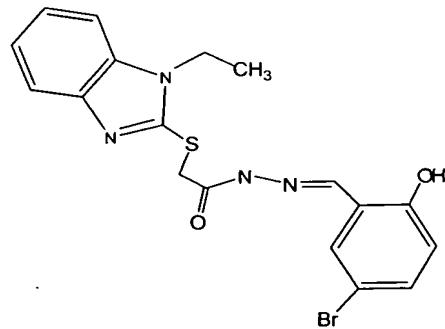
39. The method according to claim 34, wherein the compound has the following formula:



40. The method according to claim 34, wherein the compound has the following formula:



41. The method according to claim 34, wherein the compound has the following formula:



42. The method according to claim 34, wherein the compound has the following formula:

